

PHOTODEGRADATION-RESISTANT ELECTRODEPOSITABLE COATING
COMPOSITIONS AND PROCESSES RELATED THERETO

ABSTRACT

5 The invention provides a process for coating a substrate including
electrodepositing an electrodepositable composition on the substrate, heating the
coated substrate to cure the coating thereon, applying over the cured
electrodeposited coating one or more pigment-containing coating compositions
and/or one or more pigment-free coating compositions to form a top coat thereover,
10 and heating the coated substrate to cure the top coat. The electrodepositable
composition is formed from an ungelled cationic salt group-containing resin where
the salt groups are formed from pendant and/or terminal amino groups, and an at
least partially blocked aliphatic polyisocyanate curing agent. Also provided is a
photodegradation resistant multi-layer composite coating of a primer layer formed
15 from the electrodepositable composition and a top coat thereover, where the
composite coating exhibits substantially no interlayer delamination upon
concentrated solar spectral irradiance exposure equivalent to two years outdoor
weathering. The invention further provides improved processes for
electrophoretically coating a substrate.